



## common reed (*Phragmites australis*)

### Description

- Common reed is usually known simply as 'phragmites'.
- Refer to the DCNR Invasive Plants page, and the phragmites factsheet - ([http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr\\_010286.pdf](http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr_010286.pdf))
- Herbaceous, rhizomatous, perennial, cool-season grass.
- Grows in tall (6 to 12-plus feet), dense stands that exclude almost all other vegetation.
- The invasive form of phragmites is an exotic genotype likely introduced via ship ballast. There is a native form that is non-weedy and less common.
- Grows in tidal and non-tidal marshes, other wet areas, and will persist in terrestrial settings when introduced via rhizome fragment.

### Management Keys

Due to its sheer size, density and persistence, phragmites is difficult to control, but as long as you are willing to invest the effort and follow a few guidelines, it can be successfully suppressed.

Another complicating factor is that phragmites is a wetland species, and will commonly be growing in sites with surface water or saturated soil present at least seasonally. This hinders mechanical operations and adds regulatory requirements to herbicide applications.

#### Treatment Wish List

The steps in an ideal phragmites suppression program include two years of suppression and ongoing monitoring, knocking down the persistent stems to improve access and monitoring, and burning or scarifying the accumulated residue to expose the soil surface and release native emergent plants from the seed bank.

#### Be Persistent

There are two phases of invasive species management – control and maintenance. The control phase for phragmites requires two seasons. A rigorous

follow-up treatment is necessary in the second season to complete the reduction resulting from the initial treatments.

After your control efforts have nearly eliminated phragmites, you need to periodically monitor the sites and spot-treat any signs of new growth to prevent re-infestation. The critical objective is to remove phragmites and promote revegetation from the native species in the seedbank.

#### Target the Rhizomes – Timing is Key

To eliminate phragmites, you have to injure the rhizomes. This is most effectively done with systemic herbicides.

Systemic herbicides are most effective when applied later in the growing season. This is when the foliage is sending sugars produced through photosynthesis to the roots and rhizomes. Systemic herbicides move through the plant with the sugars. Applications made too early in the season do not translocate as effectively to the rhizomes, and only injure the top growth.

#### Patches, or Plague?

The size of the infestation will dictate the utility of operations such as mechanical disturbance or prescribed fire. If you have discrete patches that you could effectively spray from the perimeter of the patch, you do not need to conduct more intensive practices such as cutting or burning. Operations to reduce the height and density of phragmites are beneficial when infestations are large enough that you cannot treat without having to plod into the dense interior of the growth. In that setting, effective spray coverage is challenging, at best.

#### Should I Disturb?

Cutting, disking, rolling, or other operations that knock down the persistent dead stems do not *control* phragmites. However, if soil conditions permit, they definitely make continued work on the site easier. Doing this in June would also set back the new growth and leave a shorter, sparser stand to treat later in the season. In extensive patches, even just creating some

parallel pathways would make subsequent spraying much more efficient.

### Recommended Herbicides

*Imazapyr* ('Polaris' is an aquatic-labeled formulation) is commonly regarded as the most effective herbicide against phragmites. However, *imazapyr* has considerable soil activity, and application near desirable trees is not recommended.

*Glyphosate* is also effective and has a greater 'comfort level', as it does not have soil activity. As of this writing, the *glyphosate* products available on the PA statewide herbicide contract with aquatic labeling are 'Rodeo and 'Glyphomate 41'.

Our current recommendation is to apply a mixture of *imazapyr* and *glyphosate*. This may seem to be overkill, but you cannot promote revegetation of the site until the phragmites is controlled. When you've made the effort to treat, you should have the most effective herbicide mix possible.

### Where's the Water?

If standing water is present, a spray application requires the presence of an applicator certified for aquatic application, and a permit from the PA Fish & Boat Commission. On sites that are only occasionally saturated or inundated, it is easier to wait for drier conditions so that a permit is not required.

Figure 1. The management calendar for phragmites emphasizes late-season applications of systemic herbicides to maximize injury to the rhizomes.

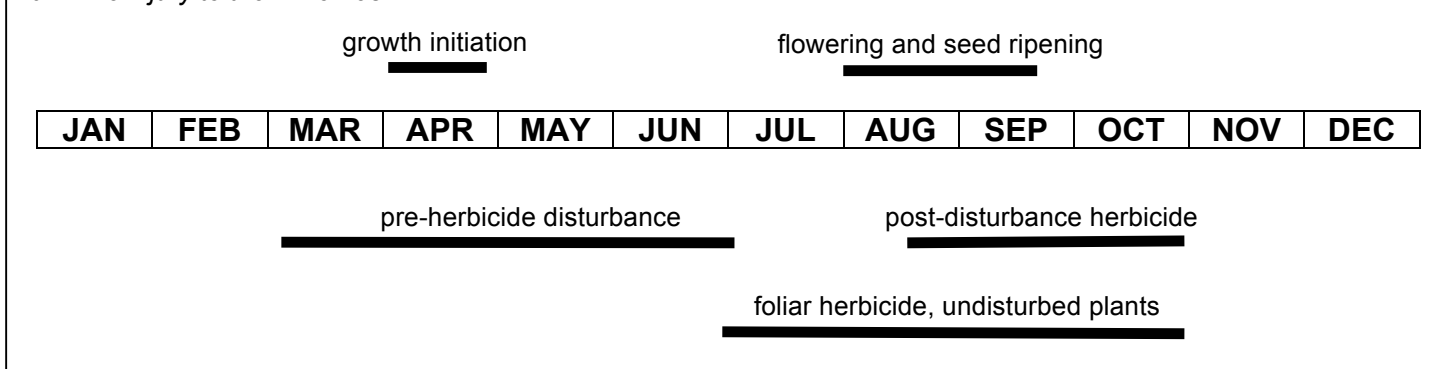


Table 1. Prescriptions for elimination of phragmites stress proper timing of operations to maximize injury to rhizomes. Improper timing (impatience) will result in treatments that provide 'topkill' (shoot injury) but no net effect.

Timing	Treatment	Product Rate	comments
At least 8 weeks prior to herbicide application	cutting, tillage, or rolling to knock down stems	n/a	The most useful operation will knock down the persistent, dead stems and set back the current year's growth. Dead stems can make up 2/3 of the stand, and setting back the new growth in June will result in a shorter, sparser stand to treat later in the season. Diking or similar shallow tillage operations will knock down stems and expose mineral soil, enhancing germination of desired native species in the seed bank. Infested sites are usually wet, and stumps and other obstacles are hard to see. However, even simply driving through to make pathways in large patches will make subsequent spraying easier.
Year 1 and 2, July to October	'Rodeo' alone or 'Rodeo' plus 'Polaris'	96 oz/ac or 96 + 64 oz/ac	Use either of these mixes for foliar application, waiting eight weeks after a cutting to treat, or treat uncut phragmites after July 1. Use an aquatic surfactant such as 'Alligare 90'. Phragmites will usually remain green into October, allowing time for a follow-up application as well. 'Polaris' ( <i>imazapyr</i> ) has significant soil activity and should not be used in close proximity to desirable trees
late fall through early spring	prescribed fire	n/a	Prescribed fire will eliminate dead-standing growth and reduce litter accumulation at the soil surface, enhancing revegetation from the soil seed bank. Prescribed fire would be useful pre-spray or post-spray.
Year 3 and beyond	herbicide spot treatment	see Year 1	After the original phragmites stand is suppressed, it is critical to monitor the area and spot-treat shoots before they have a chance to re-establish.

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